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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/585,368	07/05/2006	Mathias Wendt	DE 040014	2478

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EXAMINER	
ROMAN, LUIS ENRIQUE	
ART UNIT	PAPER NUMBER
2836	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/585,368	WENDT ET AL.	
	Examiner	Art Unit	
	LUIS ROMAN	2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12/06/08*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Applicant amendment filed on 12/06/07 has been entered. Accordingly claims 1-10 have been amended no claims have been kept original or cancelled. New claims 11-19 have been added. It also included remarks/arguments.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 8-11 & 18-19 are rejected under 35 U.S.C. 102 (b) as being anticipated by Jepsen et al. (US Patent Application Publication 2005/0275386).

Regarding claims 1 & 10 (a person of the ordinary skill will understand a method that is intrinsically described by the functioning of the apparatus) Jepsen et al. discloses a system/method (Fig. 1) comprising: a plurality of decentralized power generating units (FC<30…80V->, PV<100…350V->, PV <200…500V-> & 48V-), a plurality of DC/DC converters (A's), each of said DC/DC converters being connected to another one of said power generating units for converting a current provided by said power generating units; a DC bus to which each of said DC/DC converters is coupled for feeding a respectively converted current into said DC bus (3); and at least one power receiving component connected to said DC bus for retrieving current from said DC bus (B), which power receiving component is physically separated from said DC/DC converters, wherein none of the plurality of power generating units is a fuel cell, the examiner notes that Jepsen et al. discloses this variation of the system/method as explained below:

Firstly, Jepsen et al. teaches "a power converter for use in green power applications, and concerns particularly a module concept. ***Green power is the term used for energy sources like wind, sun or fuel cells, and the inventive power converter can be used for these different sources of electrical energy"*** (Paragraph [0002]). Thus, the fuel cell may be replaced by any other type of green power.

Secondly, Jepsen et al. teaches ***"If the green cell is a fuel cell, it operates in the voltage range 25-45 VDC"*** (Paragraph [0049]). which again suggests that the fuel cell may be replaced by any other type of green power.

Regarding claim 11 in addition to rejection of claim 1 Jepsen et al. further discloses controlling the output voltage of the converters not to exceed a predetermined value (Paragraphs [0018]-[0019]).

Regarding claim 2 Jepsen et al. further discloses wherein each of said DC/DC converters is adapted to operate autonomously and to ensure a predetermined voltage on said DC bus (Paragraph [0004]).

Regarding claims 8 & 18 Jepsen et al. further discloses wherein said power receiving component is an inverter arranged to convert a direct current retrieved from said DC bus into an alternating current and to feed said alternating current into an alternating current power supply system (Fig. 2 element B <DC/AC>).

Regarding claims 9 & 19 Jepsen et al. further discloses wherein each of said power generating units comprises at least one photovoltaic module (Fig. 2 consider among the 4 DC/DC the two in the center which are PV<photovoltaic power generating units>).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3 & 13 are rejected under 35 U.S.C. §103(a) as being unpatentable over Jepsen et al. (US Patent Application Publication 2005/0275386)

Regarding claims 3 & 13 Jepsen et al. discloses the claimed invention except for being silent about the location of the power generators and the DC/DC converters. It would have been obvious to one having ordinary skills in the art at the time the invention was made to have the circuitry of the DC/DC converters mechanically coupled or in the same housing/device that comprises the power generators to make for example easier inspection/maintenance/repair of the entire device, since it has been held that rearranging parts of an invention involves only routine skills in the art. In re Japikse, 86 USPQ 70.

Claims 4-5 & 14-15 are rejected under 35 U.S.C. §103(a) as being unpatentable over Jepsen et al. (US Patent Application Publication 2005/0275386) in view of Ostojic (US 6771052).

Regarding claims 4 & 14 Jepsen et al. discloses the system of claim 1 and a microcontroller on the power-receiving component (Fig. 1 element B, μC) but does not specifically disclose wherein the μC is adapted to survey a voltage on said DC bus and to reduce the power retrieved from said DC bus when the voltage on said DC bus is detected to be decreasing.

Ostojic teaches a multiple output DC-DC power supply with a µC programmed to monitor the voltage of a bus and react accordingly in the presence of a fault, which may be reduction of the power in the bus due to failure of one of the converters (Col. 7 line 63 to Col. 8 line 18).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Jepsen et al. device with the Ostojic teachings because it increases the protection level of the entire system.

Regarding claims 5 & 15 J Ostojic discloses the µC able to ramp-up and ramp-down the DC-DC converters besides controlling the sequence for turning on (Col. 6 lines 48-62).

Claims 6-7 & 16-17 are rejected under 35 U.S.C. §103(a) as being unpatentable over Jepsen et al. (US Patent Application Publication 2005/0275386) in view of Ostojic (US 6771052) and Najemy (US 5809256).

Regarding claims 6-7 & 16-17 Jepsen et al. in view of Ostojic discloses the system of claim 5 but does neither specifically disclose a plug connection for electrically connecting a respective DC/DC converter in common to the bus and via the control line to the power-receiving component nor at least one plug connection is adapted to electrically connect a respective DC/DC converter to the DC bus before connecting the DC/DC converter via the control line to the at least one power receiving component and to interrupt the connection between the DC/DC converter via the control line to the at least one power receiving component before disconnecting the DC/DC converter from the DC bus.

Najemy discloses a power switching which has a connector with pins for the power and data, wherein the pins for power are longer than the pins for the data (Abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Jepsen et al. in view of Ostojic device with the

Najemy teachings because the staggering pins provide insertion/removal of the connector while the apparatus is working without producing spikes surges on the on the power bus (Col. 2 lines 33-46)

Claim 12 is rejected under 35 U.S.C. §103(a) as being unpatentable over Jepsen et al. (US Patent Application Publication 2005/0275386) in view of Courier de Mere (US 5010277).

Regarding claim 12 Jepsen et al. teaches the system of claim 11 but does not disclose i wherein none of the DC-DC converters includes an electrolyte capacitor.

Courier de Mere teaches converters without the need of electrolyte capacitors (Abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Jepsen et al. system with Courier de Mere teachings because it uses less components adding simplicity to the circuitry.

Response to Arguments

Applicant's arguments filed 12/06/07 have been fully considered but they are not persuasive.

Regarding claim 1 limitation "wherein none of the plurality of power generating units is a fuel cell", the examiner notes that Jepsen et al. discloses this variation of the system/method as explained below:

Firstly, Jepsen et al. teaches "a power converter for use in green power applications, and concerns particularly a module concept. ***Green power is the term used for energy sources like wind, sun or fuel cells, and the inventive power converter can be used for these different sources of electrical energy"*** (Paragraph [0002]). Thus, the fuel cell may be replaced by any other type of green power.

Secondly, Jepsen et al. teaches ***"If the green cell is a fuel cell, it operates in the voltage range 25-45 VDC"*** (Paragraph [0049]). which again suggests that the fuel cell may be replaced by any other type of green power.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luis E. Román whose telephone number is (571) 272-5527. The examiner can normally be reached on Mon – Fri from 7:15 AM to 3:45 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on (571) 272-2084. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from Patent Application Information Retrieval (PAIR) system.

Status information for unpublished applications is available through private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

LR/030208

/Michael J Sherry/

Supervisory Patent Examiner, Art Unit 2836

/Luis Roman/

Examiner, Art Unit 2836